

## REMARKS/ARGUMENTS

Applicants have received the Office action dated July 15, 2005, in which the Examiner: 1) reorganized the restriction requirement; 2) objected to the Specification; 3) rejected claims 1-6, 32-36, 38-43, and 56-62 under 35 U.S.C. § 102(b) as allegedly unpatentable over *Bartera* (U.S. Pat. No. 3,879,992); and 4) rejected claims 44-49 under 35 U.S.C. § 103 as allegedly unpatentable over *Bartera* in view of *Gunawardana et al.* (U.S. Pat. No. 6,606,009).

With this Response, Applicants have: 1) amended the Specification; 2) amended claims 1, 3, 32, 34, 36, 38, 40, 41, 42, 44, 56, 59, 60, and 61; and 3) canceled claims 33, 43, 58, and 62.

### I. RESTRICTION REQUIREMENT<sup>1</sup>

The Examiner has mistakenly indicated that the previous election to the restriction requirement, dated December 13, 2004, was made without traverse. In fact, in the response to this restriction requirement (dated January 12, 2005), Applicants elected to prosecute claims 1-6 and 32-62 with traverse stating numerous reasons for traversal and respectfully requesting reconsideration. Applicants respectfully draw the Examiner's attention to arguments advanced in the previous response and request a reply to these arguments pursuant to § 821.01 of the MPEP. Reconsideration of the restriction requirement is requested.

### II. OBJECTIONS TO THE SPECIFICATION

The Examiner objected to the Title of the Instant Application. Accordingly, Applicants have amended the Title and respectfully submit that no new matter has been added by this amendment.

### III. CLAIM REJECTIONS

#### A. Claim 56

Independent claim 56 stands rejected as allegedly anticipated by *Bartera*. Applicants respectfully traverse this rejection because *Bartera* fails to teach or suggest each of the claim elements. More specifically, claim 56, as amended,

---

<sup>1</sup> Applicants note that the "Office Action Summary" of the instant Office Action indicates that claims 1-62 are subject to a Restriction Requirement. Applicants will assume this indication is an error unless notified otherwise.

recites (emphasis added) “analyzing, spectrally, the difference signal; and wherein the spectral content of the difference signal is proportional to the temperature of the crystals”. *Bartera* fails to teach or suggest spectral analysis of the difference signal and or that the spectral content of the difference signal is proportional to the temperature of the crystals. In fact, *Bartera* teaches against this principle in its discussion of Figure 10. Figure 10 of *Bartera* includes many sets of crystal pair structures in order to enable rapid measurement in situations where the difference frequency is small. Col. 9, ll. 38-40. Since *Bartera* attempts to calculate the difference signal in the time domain, instead of the frequency domain, the resulting measurements either must be made using multiple crystal pairs or by making measurements over an extended period of time. Col. 9, ln. 38 through Col. 10, ln. 4. Claim 56, on the other hand, requires that the difference signal is analyzed spectrally, which allows the difference signal to be calculated without the need to wait an extended period of time or the need to implement additional crystal pairs. Since *Gunawardana* also fails to teach or suggest this claim element, and claim 56 is allowable over the cited art for at least these reasons.

Independent claims 1, 32, and 44, as amended, also require that the difference signal be analyzed spectrally, and therefore are allowable over the cited art for at least the same reasons as claim 56.

**B. Claims 41, 42, 60, and 61**

Independent claims 60 and 61 as well as dependent claims 41 and 42, are allowable over the cited art for additional reasons. For example, claim 60, as amended, requires (emphasis added) “maintaining the count value with a single counter ... wherein the net count value is proportional to the temperature of the crystals”. *Bartera* specifically discloses two separate counters. Col. 4, ll. 6-8. Since *Bartera* couples only the output of counter 28 (and not the output of counter 30) to the digital to analog converter 40, *Bartera* teaches against the use a single counter with a net count value proportional to the temperature of the crystals. That is, the dual counter arrangement of *Bartera* cannot be reduced to a single counter while only coupling one of the counter outputs to the digital to analog

converter 40. Since *Gunawardana* also fails to teach or suggest this claim element, claim 60 is allowable over the cited art for at least these reasons.

Claims 41, 42, and 61 include limitations akin to those found in claim 60 and are allowable over the cited art for at least the same reasons as claim 60.

**C. Claims 44-49**

Claims 44-49 stand rejected as allegedly obvious under 35 U.S.C. § 103 over *Bartera* in view of *Gunawardana*. Applicants respectfully submit that the Office Action fails to establish a *prima facie* case of obviousness.

A *prima facie* case of obviousness requires that there be some motivation or suggestion in the references themselves to combine the teachings of the references. MPEP 2143. Further, if the modification required to combine the cited art renders the cited art unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. MPEP 2143.01V. Applicants respectfully submit that combining *Bartera* with *Gunawardana* will render *Gunawardana* unsatisfactory for its intended purpose.

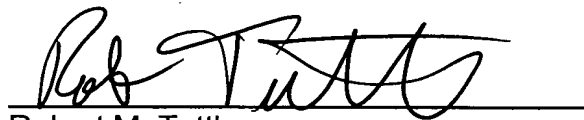
For example, the chamber 22 (shown in Figure 2 of *Gunawardana*) is intended to maintain the crystal 24 at a predetermined temperature. *Gunawardana*, ¶ [0024]. Further, the temperature inside the chamber 22 is deliberately “maintain[ed] within a relatively narrow range”. *Gunawardana*, ¶ [0030]. Thus every indication from *Gunawardana* is that there should be little or no temperature variation within the chamber 22. In fact, that is the reason that there is a heating element 26 to ensure that the chamber 22 is maintained at the desired temperature. *Gunawardana*, ¶ [0024]. *Bartera*, on the other hand, discloses “uncovered crystals” that are deliberately exposed to the elements such that mass accretions on the surface of the crystals may take place. *Bartera*, Col. 6, ll. 23-30. This “uncovered crystal” arrangement of *Bartera* would seriously hamper the ability to maintain the temperature of the crystal 24 “within a relatively narrow range” as required by *Gunawardana*, and therefore one of ordinary skill in the art would not be motivated to combine these references for at least this reason.

**IV. CONCLUSION**

In the course of the foregoing discussions, Applicants may have at times referred to claim elements in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other elements can be ignored or dismissed. The claims must be viewed as a whole, and each element of the claims must be considered when determining the patentability of the claims.

Applicants respectfully request reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Conley Rose, P.C.'s Deposit Account No. 03-2769.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Rob Tuttle', is written over a horizontal line.

Robert M. Tuttle  
PTO Reg. No. 54,504  
CONLEY ROSE, P.C.  
(713) 238-8000 (Phone)  
(713) 238-8008 (Fax)  
AGENT FOR APPLICANTS